

AMENDMENTS TO THE CLAIMS

In the Claims:

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Original) A data transmitting method using adaptive coding of a physical layer of an asynchronous mobile communication system where a SRNC consisting of a media access control (MAC) layer and radio link control (RLC) for transmitting channel data and a base station, connected to the SRNC with a wired interface, consisting of the physical layer being in charge of actual data transmission are included, comprising the steps of:

(a) receiving transport blocks (TBs) and their RLC sequence numbers (SNs) from the MAC layer through the wired interface, and keeping the received TBs and their RLC SNs stored for a predetermined time after discarding one or more TBs whose RLC SN is overlapped with pre-stored TBs; and

(b) adjusting a puncturing rate based on information on notifying acknowledgement, received from a remote counterpart, for previously-transmitted TBs, and applying the adjusted puncturing rate to the stored TBs in the middle of a preparing process for transmitting the TBs through a physical channel actually.

2. (Original) The method set forth in claim 1, wherein said acknowledgement information is received for every TTI-grouped TBs from the remote counterpart.

3. (Original) The method set forth in claim 2, further comprising the step of reporting said acknowledgement information to the MAC layer.

4. (Original) The method set forth in claim 1, wherein said step (b) maintains the puncturing rate if said acknowledgement information is indicative of non-error while said step (b) steps down the puncturing rate if said acknowledgement information is indicative of an error.

5. (Original) The method set forth in claim 1, wherein said predetermined time is equal to or longer than a time elapsing from transmission of a TB till arrival of acknowledgement of non-acknowledgement of the TB.

6. (Original) The method set forth in claim 1, further comprising the step of (c) deleting a TB among the pre-stored TBs if said acknowledgement information for the TB is indicative of non-error, or retransmitting the TB if said acknowledgement information for the TB is indicative of an error.

7. (Original) The method set forth in claim 6, wherein said step (c) retransmits an error-indicated TB together with other TBs, whose channel is same with the error-indicated TB, included in TTI-grouped TBs containing the error-indicated TB.

8. (Currently Amended) The method set forth in claim 1, wherein said step (b) transmits the stored TBs with acknowledging information for previously-transmitted TBs, the acknowledging information being prepositioned to the TBs, ~~for TBs received from the remote counterpart before transmission.~~

9. (Original) The method set forth in claim 1, wherein said step (b) transmits the stored TBs with information on the puncturing rate applied to the TBs, the puncturing rate information being prepositioned to the TBs.

10. (Original) A base station of an asynchronous mobile communication system including a physical layer where the asynchronous mobile communication system includes a SRNC consisting of a media access control (MAC) layer and radio link control (RLC) for transmitting channel data and the base station, connected to the SRNC with a wired interface, consisting of the physical layer being in charge of actual data transmission, the physical layer comprising:

a buffer storing transport blocks (TBs) received from the MAC layer through the wired interface;

a controller discarding a TB stored in said buffer or controlling retransmission of the TB based on whether or not the TB is acknowledged from a remote counterpart, and determining a puncturing rate of a TB based on acknowledged information from the remote counterpart;

a CRC attaching means calculating CRC of each TB sent from said buffer under control of said controller, and attaching the calculated CRC to the corresponding TB;

a concatenating/segmenting means organizing the CRC-attached TBs from said CRC attaching means through concatenation or segmentation to adapt the TBs to the physical layer;

a channel coding means channel-coding the adapted TBs from said concatenating/segmenting means;

a puncturing means puncturing each channel-coded TB at a rate determined by said controller;

a multiplexer multiplexing the punctured TBs of all channels; and

a mapping means interleaving the multiplexed TBs and mapping the interleaved TBs to a physical channel.

11. (Original) The base station set forth in claim 10, wherein said controller controls all TBs, whose channel is same with an error-indicated TB, included in TTI-grouped TBs containing the error-indicated TB to be retransmitted if retransmission is to be conducted.